PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)   **10/516812**

Applicant's or agent's file reference A2422PC	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)

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International Patent Classification (IPC) or both national classification and IPC

H04L12/66

Applicant

TELEFONAKTIEBOLAGET L M ERICSSON (PUBL) et al

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

   ☒   This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 12 sheets.

3. This report contains indications relating to the following items:

   I   ☒   Basis of the opinion

   II   ☐   Priority

   III   ☐   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV   ☐   Lack of unity of invention

   V   ☒   Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI   ☐   Certain documents cited

   VII   ☐   Certain defects in the international application

   VIII ☐   Certain observations on the international application

Date of submission of the demand 13.11.2003	Date of completion of this report 20.09.2004
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Forster, G Telephone No. +49 89 2399-8986

INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)):*

   Description, Pages

   1-25   as originally filed

   Claims, Numbers

   1-44   received on 13.08.2004 with letter of 13.08.2004

   Drawings, Sheets

   1/7-7/7   as originally filed

2. With regard to the **language,** all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐   the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐   the language of publication of the international application (under Rule 48.3(b)).

   ☐   the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐   contained in the international application in written form.

   ☐   filed together with the international application in computer readable form.

   ☐   furnished subsequently to this Authority in written form.

   ☐   furnished subsequently to this Authority in computer readable form.

   ☐   The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐   The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐   the description,   pages:

   ☐   the claims,   Nos.:

   ☐   the drawings,   sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-44
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-44
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-44
	No:	Claims	

2. Citations and explanations

see separate sheet

to section V.

1.   The present invention relates to a method for interworking between a number of different video communication terminals through a video interactive gateway in a video communication system, to said video communication system and to said video interactive gateway, according to the features of the amended independent claims 1, 23 and 34 respectively.

2.   The cited documents in the international search report do not appear to get closer to the subject-matter of the independent claims than the documents already acknowledged by the applicant.

3.   According to the features of the independent claims the inventive step consists in the special design of the video interactive gateway and video communication system and the particular sequence of the steps of the claimed method for interworking between a number of different video communication terminals through said video interactive gateway in the video communication system.

   The underlying concept is not disclosed in or rendered obvious by the cited prior art documents. The subject-matter of the independent claims thus fulfils the requirements of Article 33 PCT.

4.   The dependent claims contain further details on the subject-matter of the respective independent claims. These dependent claims merely limit the scope of protection sought by the independent claims and are therefore also considered to fulfil the requirements of Article 33 PCT.

26A

Claims

1.   A method for interworking between a number of differ-
ent video communication terminals through a Video Interac-
5   tive Gateway (VIG) in a video communication system, the
video communication system comprising at least one Video
Interactive Gateway unit, at least one low bit-rate multi-
media terminal, and at least one packet based multimedia
terminal, characterized in that the method comprises the
10   steps of
- the low bit-rate multimedia terminal sending an Open
Logical Channel (OLC) message to the Video Interactive
Gateway unit, the Open Logical Channel (OLC) message in-
cluding a forward channel description and a Reverse chan-
15   nel description, and
- the Video Interactive Gateway unit further sending
and/or receiving messages in order to set up video commu-
nication between the terminals,
and that in setting up video communication between the
20   terminals,
- the Video Interactive Gateway receives OLC from the
packet based multimedia terminal, and
- the Video Interactive Gateway initiates OLC by using the
forward channel description received from the packet based
25   multimedia terminal as forward channel description towards
the low bit-rate multimedia terminal, and by using the
forward channel description received from the low bit-rate
multimedia terminal as the reverse channel description to-
wards the low bit-rate multimedia terminal.
30

2.   An interworking method according to claim 1, charac-
terized in that the method further comprises the step of
- the Video Interactive Gateway unit sending an Open Logi-
cal Channel (OLC) rejection message to the low bit-rate
35   multimedia terminal.

AMENDED SHEET

27A

3.   An interworking method according to claim 1 or to claim 2, characterized in that in setting up video communication between the terminals,

- the Video Interactive Gateway initiates OLC towards the
5   packet based multimedia terminal by using the forward channel description received from the low bit-rate multimedia terminal, and

- the Video Interactive Gateway receives OLC ack from the low bit-rate multimedia terminal and initiates OLC ack to-
10   wards the packet based multimedia terminal.

4.   An interworking method according to any of the claims 1-3, characterized in that the Video Interactive Gateway receives OLC ack from the packet based multimedia terminal
15   and sends OLC conf to the low bit-rate multimedia terminal when both OLC ack from the low bit-rate multimedia terminal and OLC ack from the packet based multimedia terminal has been received.

20   5.   An interworking method according to any of the claims 1-4, characterized in that in case OLC has not been received from the packet based multimedia terminal, when OLC ack is received from the packet based multimedia terminal, the Video Interactive Gateway initiates OLC to the low
25   bit-rate multimedia terminal by leaving forward channel description empty.

6.   An interworking method according to claim 5, characterized in that in case OLC is received from the packet
30   based multimedia terminal later, VIG closes the already opened channel to the low bit-rate multimedia terminal and opens a new one by using the proper forward channel description.

35   7.   An interworking method according to claim 1, characterized in that

28A

- before receiving OLC from the packet based multimedia ·
terminal, as the Video Interactive Gateway receives OLC
first from the low bit-rate multimedia terminal, it starts
a timer, and that

5   - after initiating OLC, the Video Interactive Gateway re-
ceives OLC ack from the low bit-rate multimedia terminal,
initiates OLC ack towards the packet based multimedia ter-
minal, and further initiates OLC towards the packet based
multimedia terminal by using the forward channel descrip-
10 tion received from the low bit-rate multimedia terminal.

8.   An interworking method according to claim 7, charac-
terized in that the method further comprises the step of
- the Video Interactive Gateway unit sending an Open Logi-
15 cal Channel (OLC) rejection message to the low bit-rate
multimedia terminal.

9.   An interworking method according to claim 7 or to
claim 8, characterized in that the Video Interactive Gate-
20 way sends OLC conf to H.324 when OLC ack from the packet
based multimedia terminal is received.

10.   An interworking method according to claim 7 or to
claim 8, characterized in that in case OLC has not been
25 received from the packet based multimedia terminal, when
the timer expires, VIG initiates OLC to the low bit-rate
multimedia terminal by leaving forward channel description
empty.

30 11.   An interworking method according to claim 10, char-
acterized in that in case OLC is received from the packet
based multimedia terminal later, VIG closes the already
opened channel to the low bit-rate multimedia terminal and
opens a new one by using the proper forward channel de-
35 scription.

29A

12.   An interworking method according to claim 1, characterized in that the Video Interactive Gateway initiates OLC by using the forward channel description received from the packet based multimedia terminal as forward and re-

5   verse channel description towards the low bit-rate multimedia terminal.

13.   An interworking method according to claim 12, characterized in that the method further comprises the step of

10   - the Video Interactive Gateway unit sending an Open Logical Channel (OLC) rejection message to the low bit-rate multimedia terminal.

14.   An interworking method according to claim 12 or to

15   claim 13, characterized in that in setting up video communication between the terminals, as the Video Interactive Gateway receives OLC first from the low bit-rate multimedia terminal, it starts a timer.

20   15.   An interworking method according to any of the claims 12-14, characterized in that in setting up video communication between the terminals, the Video Interactive Gateway receives OLC ack from the low bit-rate multimedia terminal and initiates OLC ack towards the packet based

25   multimedia terminal, and further initiates OLC towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal.

30   16.   An interworking method according to any of the claims 12-15, characterized in that
- when initiating OLC by using the forward channel description received from the packet based multimedia terminal as reverse channel description towards the low bit-

35   rate multimedia terminal, the Video Interactive Gateway

AMENDED SHEET.ᴏ₂₂ ᴘ ᴏᴏ7

30A

takes into account the request received from the low bit-
rate multimedia terminal, and that
- when initiating OLC ack towards the packet based multi-
media terminal by using the forward channel description
5   received from the packet based multimedia terminal, the
Video Interactive Gateway takes into account the request
received from the low bit-rate multimedia terminal.

17.   An interworking method according to any of the
10   claims 12-16, characterized in that
- when initiating OLC by using the forward channel de-
scription received from the packet based multimedia termi-
nal as reverse channel description towards the low bit-
rate multimedia terminal, the Video Interactive Gateway
15   takes into account the capability description received
from the low bit-rate multimedia terminal, and that
- when initiating OLC ack towards the packet based multi-
media terminal by using the forward channel description
received from the packet based multimedia terminal, the
20   Video Interactive Gateway takes into account the capabil-
ity description received from the low bit-rate multimedia
terminal.

18.   An interworking method according to any of the
25   claims 12-17, characterized in that the Video Interactive
Gateway receives OLC ack from the packet based multimedia
terminal and sends OLC conf to the low bit-rate multimedia
terminal when both OLC ack from the low bit-rate multime-
dia terminal and OLC ack from the packet based multimedia
30   terminal has been received.

19.   An interworking method according to any of the
claims 12-17, characterized in that in case OLC has not
been received from the packet based multimedia terminal,
35   when the timer expires, the Video Interactive Gateway ini-
tiates OLC to the packet based multimedia terminal, and as

AMENDED SHEET

31A

the packet based multimedia terminal acknowledges this,
the Video Interactive Gateway initiates OLC to the low
bit-rate multimedia terminal by leaving forward channel
description empty.

5

20. An interworking method according to claim 19, char-
acterized in that in case OLC is received from the packet
based multimedia terminal later, the Video Interactive
Gateway closes the already opened channel to the low bit-
10   rate multimedia terminal and opens a new one by using the
proper forward channel description.

21. An interworking method according to any of the
claims 1-20, characterized in that the low bit-rate multi-
15   media terminal is a H.324 terminal and that the packet
based multimedia terminal is a H.323 terminal.

22. An interworking method according to any of the
claims 1-20, characterized in that the low bit-rate multi-
20   media terminal is a H.324 terminal and that the packet
based multimedia terminal is a SIP terminal.

23. A video communication system, the video communica-
tion system comprising at least one Video Interactive
25   Gateway unit, at least one low bit-rate multimedia termi-
nal, and at least one packet based multimedia terminal,
characterized in that
- the low bit-rate multimedia terminal is arranged for
sending an Open Logical Channel (OLC) message to the Video
30   Interactive Gateway unit, the Open Logical Channel (OLC)
message including a forward channel description and a Re-
verse channel description,
- the Video Interactive Gateway unit is arranged for send-
ing and/or receiving messages in order to set up video
35   communication between the terminals,

AMENDED SHEET

32A

and that in setting up video communication between the
terminals,
- the Video Interactive Gateway is arranged for receiving
OLC from the packet based multimedia terminal, and
5 - the Video Interactive Gateway is arranged for initiating
OLC by using the forward channel description received from
the packet based multimedia terminal as forward channel
description towards the low bit-rate multimedia terminal,
and by using the forward channel description received from
10 the low bit-rate multimedia terminal as the reverse chan-
nel description towards the low bit-rate multimedia termi-
nal.

24. A video communication system according to claim 23,
15 characterized in that the Video Interactive Gateway unit
is arranged for sending an Open Logical Channel (OLC) re-
jection message to the low bit-rate multimedia terminal.

25. A video communication system according to claim 23
20 or to claim 24, characterized in that in setting up video
communication between the terminals,
- the Video Interactive Gateway is arranged for initiating
OLC towards the packet based multimedia terminal by using
the forward channel description received from the low bit-
25 rate multimedia terminal, and
- the Video Interactive Gateway is arranged for receiving
OLC ack from the low bit-rate multimedia terminal and ini-
tiating OLC ack towards the packet based multimedia termi-
nal.
30
26. A video communication system according to claim 23,
characterized in that
- the Video Interactive Gateway is arranged for starting a
timer as it receives OLC first from the low bit-rate mul-
35 timedia terminal before receiving OLC from the packet
based multimedia terminal, and that

AMENDED SHEET

33A

- the Video Interactive Gateway is arranged for receiving
OLC ack from the low bit-rate multimedia terminal after
initiating OLC, initiating OLC ack towards the packet
based multimedia terminal, and further initiating OLC to-
5   wards the packet based multimedia terminal by using the
forward channel description received from the low bit-rate
multimedia terminal.

27.   A video communication system according to claim 26,
10   characterized in that the Video Interactive Gateway unit
is arranged for sending an Open Logical Channel (OLC) re-
jection message to the low bit-rate multimedia terminal.

28.   A video communication system according to claim 23,
15   characterized in that the Video Interactive Gateway is ar-
ranged for initiating OLC by using the forward channel de-
scription received from the packet based multimedia termi-
nal as forward and reverse channel description towards the
low bit-rate multimedia terminal.
20

29.   A video communication system according to claim 28,
characterized in that the Video Interactive Gateway unit
is arranged for sending an Open Logical Channel (OLC) re-
jection message to the low bit-rate multimedia terminal.
25

30.   A video communication system according to claim 28
or to claim 29, characterized in that in setting up video
communication between the terminals, the Video Interactive
Gateway is arranged for starting a timer as it receives
30   OLC first from the low bit-rate multimedia terminal.

31.   A video communication system according to any of the
claims 28-30, characterized in that in setting up video
communication between the terminals, the Video Interactive
35   Gateway is arranged for receiving OLC ack from the low
bit-rate multimedia terminal and initiating OLC ack to-

AMENDED SHEET

34A

wards the packet based multimedia terminal, and further initiating OLC towards the packet based multimedia terminal by using the forward channel description received from the packet based multimedia terminal.

5

32. A video communication system according to any of the claims 23-31, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the packet based multimedia terminal is a H.323 terminal.

10

33. A video communication system according to any of the claims 23-31, characterized in that the low bit-rate multimedia terminal is a H.324 terminal and that the packet based multimedia terminal is a SIP terminal.

15

34. A Video Interactive Gateway unit for interworking between a number of different video communication terminals in a video communication system, the video communication system comprising at least one Video Interactive
20 Gateway unit, at least one low bit-rate multimedia terminal, and at least one packet based multimedia terminal, characterized in that
- the low bit-rate multimedia terminal is arranged for sending an Open Logical Channel (OLC) message to the Video
25 Interactive Gateway unit, the Open Logical Channel (OLC) message including a forward channel description and a Reverse channel description, and
- the Video Interactive Gateway unit is arranged for sending and/or receiving messages in order to set up video
30 communication between the terminals.
and that in setting up video communication between the terminals,
- the Video Interactive Gateway is arranged for receiving OLC from the packet based multimedia terminal, and
35 - the Video Interactive Gateway is arranged for initiating OLC by using the forward channel description received from

AMENDED SHEET

35A

the packet based multimedia terminal as forward channel
description towards the low bit-rate multimedia terminal,
and by using the forward channel description received from
the low bit-rate multimedia terminal as the reverse chan-
5   nel description towards the low bit-rate multimedia termi-
nal.

35.   A Video Interactive Gateway unit according to claim
34, characterized in that the Video Interactive Gateway
10 unit is arranged for sending an Open Logical Channel (OLC)
rejection message to the low bit-rate multimedia terminal.

36.   A Video Interactive Gateway unit according to claim
34 or to claim 35, characterized in that in setting up
15 video communication between the terminals,
- the Video Interactive Gateway is arranged for initiating
OLC towards the packet based multimedia terminal by using
the forward channel description received from the low bit-
rate multimedia terminal, and
20 - the Video Interactive Gateway is arranged for receiving
OLC ack from the low bit-rate multimedia terminal and ini-
tiating OLC ack towards the packet based multimedia termi-
nal.

25 37.   A Video Interactive Gateway unit according to claim
34, characterized in that
- the Video Interactive Gateway is arranged for starting a
timer as it receives OLC first from the low bit-rate mul-
timedia terminal before receiving OLC from the packet
30 based multimedia terminal, and that
- the Video Interactive Gateway is arranged for receiving
OLC ack from the low bit-rate multimedia terminal after
initiating OLC, initiating OLC ack towards the packet
based multimedia terminal, and further initiating OLC to-
35 wards the packet based multimedia terminal by using the

AMENDED SHEET

36A

. forward channel description received from the. low bit-rate
multimedia terminal.

5   38.   A Video Interactive Gateway unit according to claim
37, characterized in that the Video Interactive Gateway
unit is arranged for sending an Open Logical Channel (OLC)
rejection message to the low bit-rate multimedia terminal.

10   39.   A Video Interactive Gateway unit according to claim
34, characterized in that the Video Interactive Gateway is
arranged for initiating OLC by using the forward channel
description received from the packet based multimedia ter-
minal as forward and reverse channel description towards
the low bit-rate multimedia terminal.

15

40.   A Video Interactive Gateway unit according to claim
39, characterized in that the Video Interactive Gateway
unit is arranged for sending an Open Logical Channel (OLC)
rejection message to the low bit-rate multimedia terminal.

20

41.   A Video Interactive Gateway unit according to claim
39 or to claim 40, characterized in that in setting up
video communication between the terminals, the Video·In-
teractive Gateway is arranged for starting a timer as it
25   receives OLC first from the low bit-rate multimedia termi-
nal.

42.   A Video Interactive Gateway unit according to any of
the claims 39-41, characterized in that in setting up
30   video communication between the terminals, the Video In-
teractive Gateway is arranged for receiving OLC ack from
the low bit-rate multimedia terminal and initiating OLC
ack towards the packet based multimedia terminal, and fur-
ther initiating OLC towards the packet based multimedia
35   terminal by using the forward channel description received
from the packet based multimedia terminal.

AMENDED SHEET₂₂₂ ₚ ₀₁₄

37A

43.   A Video Interactive Gateway unit according to any of
the claims 34-42, characterized in that the low bit-rate
multimedia terminal is a H.324 terminal and that the
5   packet based multimedia terminal is a H.323 terminal.

44.   A Video Interactive Gateway unit according to any of
the claims 34-42, characterized in that the low bit-rate
multimedia terminal is a H.324 terminal and that the
10   packet based multimedia terminal is a SIP terminal.